

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion.

2. (Original) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

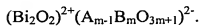
wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion; and

wherein the ferroelectric film is a solid solution with a dielectric shown by X_2SiO_5 , $X_4Si_3O_{12}$, X_2GeO_5 or $X_4Ge_3O_{12}$ (wherein X represents Bi^{3+} , Fe^{3+} , Se^{3+} , Y^{3+} , La^{3+} , Ce^{3+} , Pr^{3+} , Nd^{3+} , Pm^{3+} , Sm^{3+} , Eu^{3+} , Gd^{3+} , Tb^{3+} , Dy^{3+} , Ho^{3+} , Er^{3+} , Tm^{3+} , Yb^{3+} or Lu^{3+}).

3. (Currently Amended) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion; and

wherein the ferroelectric film includes at least one transition element in an amount of 5 to 40 mol% in total, the transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the A site ion of the ABO_3 or



4. (Currently Amended) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion; and

wherein the ferroelectric film includes at least one transition element in an amount of 5 to 40 mol% in total, the transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the B site ion of the ABO_3 or



5. (Currently Amended) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion;

wherein the ferroelectric film includes at least one transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the B site ion of the ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$;

wherein the ferroelectric film includes at least one transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the A site ion of the ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$; and

wherein the transition elements are included in an amount of 5 to 40 mol% in the A and B sites in total.

6. (Currently Amended) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion;

wherein the ferroelectric film is a solid solution with a dielectric shown by X_2SiO_5 , $X_4Si_3O_{12}$, X_2GeO_5 or $X_4Ge_3O_{12}$ (wherein X represents Bi^{3+} , Fe^{3+} , Sc^{3+} , Y^{3+} , La^{3+} , Ce^{3+} , Pr^{3+} , Nd^{3+} , Pm^{3+} , Sm^{3+} , Eu^{3+} , Gd^{3+} , Tb^{3+} , Dy^{3+} , Ho^{3+} , Er^{3+} , Tm^{3+} , Yb^{3+} or Lu^{3+}); and

wherein the ferroelectric film includes at least one transition element in an amount of 5 to 40 mol% in total, the transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the A site ion of the ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$.

7. (Currently Amended) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion;

wherein the ferroelectric film is a solid solution with a dielectric shown by X_2SiO_5 , $X_4Si_3O_{12}$, X_2GeO_5 or $X_4Ge_3O_{12}$ (wherein X represents Bi^{3+} , Fe^{3+} , Sc^{3+} , Y^{3+} , La^{3+} , Ce^{3+} , Pr^{3+} , Nd^{3+} , Pm^{3+} , Sm^{3+} , Eu^{3+} , Gd^{3+} , Tb^{3+} , Dy^{3+} , Ho^{3+} , Er^{3+} , Tm^{3+} , Yb^{3+} or Lu^{3+}); and

wherein the ferroelectric film includes at least one transition element in an amount of 5 to 40 mol% in total, the transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the B site ion of the ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$.

8. (Currently Amended) A ferroelectric film including a perovskite ferroelectric or a bismuth layer-structured ferroelectric shown by ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$ (wherein A represents at least one ion selected from the group consisting of Li^+ , Na^+ , K^+ , Pb^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Bi^{3+} and La^{3+} , B represents at least one ion selected from the group consisting of Fe^{3+} , Ti^{4+} , Zr^{4+} , Nb^{5+} , Ta^{5+} , W^{6+} and Mo^{6+} , and m is a natural number),

wherein at least four-fold coordinated Si^{4+} or Ge^{4+} is included in the A site ion;

wherein the ferroelectric film is a solid solution with a dielectric shown by X_2SiO_5 , $X_4Si_3O_{12}$, X_2GeO_5 or $X_4Ge_3O_{12}$ (wherein X represents Bi^{3+} , Fe^{3+} , Sc^{3+} , Y^{3+} , La^{3+} , Ce^{3+} , Pr^{3+} , Nd^{3+} , Pm^{3+} , Sm^{3+} , Eu^{3+} , Gd^{3+} , Tb^{3+} , Dy^{3+} , Ho^{3+} , Er^{3+} , Tm^{3+} , Yb^{3+} or Lu^{3+});

wherein the ferroelectric film includes at least one transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the B site ion of the ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$;

wherein the ferroelectric film includes at least one transition element having ~~the a~~ maximum positive valence which is +1 or more greater than ~~the a~~ valence of the A site ion of the ABO_3 or $(Bi_2O_2)^{2+}(A_{m-1}B_mO_{3m+1})^{2-}$; and

wherein the transition elements are included in an amount of 5 to 40 mol% in the A and B sites in total.

9. (Currently Amended) The ferroelectric film as defined in any of claims 1 to 8, wherein the ferroelectric film includes $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$ which includes at least four-fold coordinated Si^{4+} or Ge^{4+} in the A site ion in an amount of ~~1%~~1 mol% or more; and

wherein at least one transition element having ~~the a~~ maximum positive valence of +3 or more is included in the A site in an amount of 5 to 40 mol% in total.

10. (Currently Amended) The ferroelectric film as defined in any of claims 1 to 8, wherein the ferroelectric film includes $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$ which includes at least four-fold coordinated Si^{4+} or Ge^{4+} in the A site ion in an amount of ~~1%~~1 mol% or more; and

wherein at least one transition element having ~~the a~~ maximum positive valence of +5 or more is included in the B site in an amount of 5 to 40 mol% in total.

11. (Currently Amended) A ferroelectric film including $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$ which includes at least four-fold coordinated Si^{4+} or Ge^{4+} in ~~the a~~ Pb site ion in an amount of ~~1%~~1 mol% or more,

wherein at least one transition element having ~~the a~~ maximum positive valence of +3 or more is included in the Pb site;

wherein at least one transition element having ~~the a~~ maximum positive valence of +5 or more is included in ~~the a~~ Zr or Ti site; and

wherein the transition elements are included in an amount of 5 to 40 mol% in the Pb and Zr or Ti sites in total.

12. (Currently Amended) A ferroelectric film including $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$ which includes at least four-fold coordinated Si^{4+} or Ge^{4+} in ~~the a~~ Pb site ion in an amount of ~~1%~~1 mol% or more,

wherein at least one of La and other lanthanoid series ions is included in the Pb site in an amount of 5 to 40 mol% in total.

13. (Currently Amended) A ferroelectric film including $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$ which includes at least four-fold coordinated Si^{4+} or Ge^{4+} in ~~the a~~a Pb site ion in an amount of ~~1%~~1 mol% or more,

wherein at least one of Nb, V and W is included in ~~the a~~a Zr or Ti site in an amount of 5 to 40 mol% in total.

14. (Currently Amended) A ferroelectric film including $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$ which includes at least four-fold coordinated Si^{4+} or Ge^{4+} in ~~the a~~a Pb site ion in an amount of ~~1%~~1 mol% or more,

wherein at least one of La and other lanthanoid series ions is included in the Pb site, and at least one of Nb, V and W is included in ~~the a~~a Zr or Ti site, in an amount of 5 to 40 mol% in the Pb and Zr or Ti sites in total.

15. (Currently Amended) The ferroelectric film as defined in any of ~~claim~~claims 11 to 14, further including:

at least one of Nb, V and W in the Zr or Ti site in an amount twice the amount ~~of~~of a Pb ion vacancy in the Pb site.

16. (Currently Amended) The ferroelectric film as defined in any of claims 11 to 14 ~~is included~~including (111)-oriented tetragonal crystals.

17. (Currently Amended) The ferroelectric film as defined in any of claims 11 to 14 ~~is included~~including (001)-oriented rhombohedral crystals.

18-29. (Canceled)

30. (Currently Amended) A ferroelectric memory comprising the ferroelectric film as defined in ~~claim any of claims 1-8, 11-14 and 23-24~~1-8 and 11-14.

31. (Currently Amended) A piezoelectric device comprising the ferroelectric film as defined in ~~claim any of claims 1-8, 11-14 and 23-24~~1-8 and 11-14.